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CONSTRUCTION AND EQUIPMENT

No. 5



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CONSTRUCTION

OFFICIAL INTERVIEWED ON REORGANIZING FARMS, VILLAGES IN RSFSR

Moscow SEL'SKOYE STROITEL'STVO in Russian No 1, 1980 pp 3-7

[Interview with S. N. Sabaneyev, USSR Supreme Soviet deputy and RSFSR Gosstroy chairman: "Reorganization of Russian Villages and Countryside"]

[Text] We have entered 1980—the last year of the 10th Five-Year Plan. In this connection, the SEL'SKOYE STROITEL'STVO editors addressed themselves to Comrade S. N. Sabaneyev, USSR Supreme Soviet deputy and RSFSR Gosstroy chairman, with the request to answer some questions related to the implementation of the assignments on the further comprehensive reorganization of RSFSR villages and countryside. Following are his answers.

Question: What is the status of the implementation of the plans for the reorganization of Russian villages in the light of the decisions of the 25th CPSU Congress, the July and November 1978 CPSU Central Committee plenums, and the addresses by Comrade L. I. Brezhnev, CPSU Central Committee general secretary at the plenums?

Answer: The problems of the comprehensive reorganization of villages and the countryside are directly related to the major social problem of gradually bringing the material and cultural-living conditions of the country closer to those of the town.

In the CPSU Central Committee Accountability Reports to the 25th Party Congress, Comrade L. I. Brezhnev said that the solution of this problem is among our party's most important tasks. Pursuing the agrarian policy course formulated at the March 1965 CPSU Central Committee Plenum, our party achieved considerable successes in insuring the upsurge of agriculture and strengthening its material and technical base. In recent years productive capital has nearly tripled. The entire machine-tractor fleet has been renovated. The sector's power-labor ratio has improved by a 2.5 factor. Large-scale construction of

industrial and cultural-residential projects is underway. In the first three years of the current five-year plan alone, in the villages of the Russian Federation housing totaling an area in excess of 40 million square meters has been constructed along with children's pre-school establishments accommodating 237,000 pupils, general education schools for 450,000 pupils, cultural clubs and homes with 342,000 seats, many hospitals, and other projects.

Nevertheless, housing and cultural-consumer construction is considerably behind the needs of developing agricultural production and the pace of reorganization of villages and country remains inadequate. A number of difficulties stand in the way of resolving problems related to the reorganization of the villages, related to historical developments and the way in which the rural population of the RSFSR has settled. The republic has about 200,000 villages and settlements with a population averaging 220 people, the average in the Nonchernozem zone being 120. Over 70,000 settlements have a population of under 50 each. Such low density creates additional difficulties in providing within a short time modern amenities and upgrading the productivity of capital investments.

This gives priority to the problem of consolidating the existing settlements, the more so since the preservation of a number of small villages and farmsteads would be economically unjustified under the conditions of the agricultural production concentration and specialization underway. Allow me to point out in particular that in the past as well there has been a reduction in the number of rural settlements in the RSFSR. In the Nonchernozem zone of the RSFSR, for example, their number has been reduced by nearly 30 percent starting with 1973 (from 180,000 to 128,000). However, this unregulated process cannot be considered an economically and technically justified consolidation of settlements. We are well familiar with the positive experience of consolidation in a number of kolkhozes in Kirovskaya Oblast (the Iskra and imeni Kirov kolkhozes). Here, big improved settlements were developed within a short time and the moving of the population of dozens of small villages and farmsteads was organized. As the result, the kolkhozes have no cadre difficulties and the people live in greater comfort. The number of such examples is rising.

Question: We know that the regional layout plans formulated by the RSFSR Gosstroy are of great organizing importance to the scientific organization of the future settlements. What is being done in this respect?

Answer: Of late extensive work has been done in the RSFSR in the area of future settlements. Republic and a regional systems for the development and location of agricultural complexes and other consolidated industrial sites have been elaborated. It is on this basis that designs and plans for regional layouts are being drafted. By the end

of 1979, 64 autonomous republics, krays, and oblasts, including all autonomous republics and oblasts in the Nonchernozem zone, had been supplied with regional layout plans. Settlement plans for the RSFSR as a whole, for the Siberian area, the Urals, and the Volga area have been elaborated. This project will be completed in the republic this year.

A worse situation prevails in the case of the formulation of draft regional layout plans for administrative rayons which provide solutions to basic organizational, economic, and technical problems related to the reorganization of the villages. The regional layout plans drafted before 1970 demand considerable reworking, taking into consideration the comprehensive solution of the problem of developing agricultural production and other national economic sectors. Currently only 311 out of 1,973 administrative rayons in the republic have such comprehensive plans.

Particular attention should be paid to the development of the rayon centers and the comprehensive building of promising rural settlements and, above all, the central farmsteads of sovkhozes and kolkhozes. The intensive building of such main rayon settlements, along with the development of a network of intrarayon and intraeconomic paved roads, would make it possible to implement within a shorter time the main idea governing the reconstruction of the villages--raising the standard of population public services.

I would like to particularly emphasize, however, that in some areas the acute problem of so-called unpromising villages and settlements inhabited by nearly one-third of the rural population frequently arises. Many such settlements will remain for a long time to come and their populations are justifiably hoping for improvements of their living conditions. Without, as a rule, engaging in new construction in such villages, we should be concerned with repairing and improving available housing and communal facilities, insuring trade and public services to the population, and organizing transportation facilities between such villages and farm and rayon centers. In many cases, however, unjustified reductions in population services in the unpromising settlements has been allowed. This has been sharply criticized in the press. The autonomous republics and oblasts have drawn the necessary conclusions and passed decisions blocking hasty actions resulting in closing down existing settlements.

Question: How is the problem of housing and public services construction concentration in RSFSR rural areas being resolved?

Answer: Recently the concentration of housing and public services construction in RSFSR villages has risen somewhat. The number of settlements being built on a comprehensive basis is rising. Thus, in the Nonchernozem zone, construction took place in 9,300 of a total of

14,500 sovkhos and kolkhos settlements earmarked for further expansion. Construction in 725 of them was comprehensive.

Such concentration conducted in Moscow Oblast is worthy of approval. Here the oblast soviet of people's deputies decided on the comprehensive building of 74 settlements this five-year plan. The construction of individual buildings, engineering facilities, and improvement elements is underway in the remaining developing villages whose comprehensive building is planned for the immediate future. This approach helps to achieve social results based on the reorganization of the villages and to the retention of cadres in agriculture. This is confirmed by the building of the following settlements: Kudinovo, Kaluzhskaya Oblast; Spasskoye and Bakhmet'yevo, Tul'skaya Oblast; Serkovo and Kholyazino, Gor'kovskaya Oblast; and Dubovka in Chelyabinskaya Oblast, as well as a number of settlements in Krasnodarskiy Kray. Let us use the examples of the Taman' Stanitsa, and the Ventsy Zarya, Oktyabr'skiy, and Novo-Berezanskiy settlements. They have improved streets and homes, squares, boulevards, culture palaces, schools, modern stores, and public services buildings.

However, still little has been accomplished for the RSFSR at large in the comprehensive reorganization of the villages. It is extremely necessary for the RSFSR Ministry of Agriculture and its local organs to take the necessary measures to insure the necessary financing for the building of the villages and concentrate funds. Estimates indicate that in order to resolve the problem of the comprehensive building of settlements the share of housing-civilian construction should account for no less than 35 percent of the total construction appropriations, rather than 20 percent.

The implementation of the CPSU Central Committee and USSR Council of Ministers decree "On the Further Development of the Construction of Individual House Buildings and Consolidating Cadres in the Villages" offers considerable possibilities for the reorganization of the villages. The experience in organizing such construction in Moscow Oblast through the creation of house building cooperatives, convincingly proves the extensive possibilities which are created for the development of the villages through the extensive utilization of population initiatives and funds. Thus, in less than two years, through the efforts of the housing-construction cooperative of the Nara sovkhos, the Druzhba settlement was built in Naro-Fominskiy Rayon. Its living conditions and population services are equal to those of any town.

Question: To what extent are sovkhos and kolkhos settlements provided with layout and construction plans? What innovations may be found in their architectural-layout solutions?

Answer: For the RSFSR as a whole 93 percent of the settlements of central farmsteads of sovkhozes and kolkhozes have their planning-layout documents; in the Nonchernozem zone most of the central farm settlements have been supplied with such plans.

Certain changes have taken place in resolving the basic architectural-layout problem under the influence of experimental construction results and dissemination of progressive experience. The bulk of layout plans drafted recently provide for a more effective functional zoning of territories and location of the construction nuclei consisting of public buildings and sectional residential housing. The dimensions of farmstead building have been expanded considerably and the architects are paying greater attention to the organization of the farmsteads in settlements.

Nevertheless, it should be acknowledged that a number of shortcomings and unresolved problems remain in this area. Lagging has been allowed to occur in the formulation of layout and building plans for settlements of sovkhozes and kolkhozes in Siberia and the Far East, less than 80 percent of which have been provided with such plans. Extensive work remains to be done to draft layout plans for developing settlements of sovkhoz sections and kolkhoz brigades whose settlements in the RSFSR exceed 12,000.

Question: Many villages are both sovkhoz and kolkhoz centers and centers of administrative rayons. What could you tell us about the plans for layouts and building of such settlements?

Answer: The problems of drafting layout plans for rayon centers are of particular importance. The rayon center plays a leading role in the organization of the political life and in the economy and development of the rural rayon. The building of rayon centers on the basis of plans has become an inevitable prerequisite for the effective utilization of capital investments and resources allocated for a number of sectors and, above all, for agriculture. The republic has 1,793 rayon centers, 1,211 of which are cities and workers' settlements. Each of them has its general plan. Yet, the formulation of layout and construction plans for rayon centers located in villages has fallen considerably behind. Only 172 of 582 such settlements, or 30 percent, have layout plans based on contemporary requirements. In the others construction is based on largely obsolete plans.

Administrations and departments in charge of construction and architectural affairs should amend their approach to the formulation of layout plans and begin, above all, with settlements where the bulk of the construction is taking place.

Question: The republic is engaged in experimental construction of rural settlements. What are the results of these efforts?

Answer: Experimental-model construction was initiated in the RSFSR in 1969-1970. Since then the first section has been completed in 14 experimental settlements. This year it will be completed in yet another seven villages. The main result of the experimental-model construction is that it has provided convincing proof of the advantages of the comprehensive building of villages, along with its economic and social effectiveness. This is best exemplified by the building of experimental-model settlements which earned extensive public recognition and have been adopted today as standards for the comprehensive reorganization of the villages. Prizes have been awarded by the USSR Council of Ministers to the following settlements: Shapshi, Tatarskaya ASSR, and Verkhnyaya Troitsa, Kalininskaya Oblast. The Il'inogorskiy settlement in Gor'kovskaya Oblast, Voronovo and Kuznetsovskiy settlements in Moscow Oblast, the Mayskiy settlement in Permskaya Oblast, the Sel'tso and Glazhevo settlements in Leningrad Oblast, and others were awarded diplomas by the USSR Exhibition of Achievements of the National Economy.

Practical experience has proved that a number of technical and architectural solutions come to light with the completion of the first section of the construction project and could be recommended in mass construction. The popularity of building low-story housing in the villages with private plots has been confirmed. A more effective residential construction structure varying with the zone has been defined; the expediency of using local systems of engineering equipment has been confirmed; experimental models for treatment plants and low productivity heat generators have been tested.

Yet, let us emphasize the long-term nature of experimental-model construction as the best means for seeking and testing effective solutions in the area of village reorganization. That is why it is a question not only of completing the building of the initiated experimental settlements but of expanding the program for experimental construction in accordance with the positive experience achieved in both our and other union republics. A radical streamlining of construction in such settlements would also call for resolving the question of applying to this type of construction the procedure governing the planning, financing, and material and technical support used for big agricultural complexes.

Question: Upgrading the level of improvements largely depends on resolving the problems of rural engineering equipment. What is being done in this respect?

Answer: The question is proper. One of the most urgent and complex problems in rural reorganization is, indeed, that of engineering equipment. This largely determines the disparity between town and country. At the present time the average daily water consumption per rural resident is lower by a factor of eight compared with the cities. Less than five percent of the houses have sewer lines. Most of the heating in

the villages is with stoves and centralized heat supply systems account for less than 10 percent of the housing; gas is supplied to 40 percent of the rural settlements. However, the volumes of engineering improvements remain obviously inadequate and are behind the amounts of rural housing construction.

Local water, sewage, and heat supply systems should be used more extensively in designing engineering facilities in the villages, as they are the most economical. The forthcoming increased amount of work on the installation of engineering facilities in rural settlements will require the considerable development of specialized contracting organizations, the strengthening of their technical base, and the improvement of workers' skills. The experience of the ductless laying of heat pipes and the large-block assembly of sanitation and thermoengineering structures should be applied more extensively in rural construction.

Question: Residential building in rural settlements should be based essentially on standardized designs elaborated in accordance with modern architecture and local national traditions and native architecture. What is the reason for frequent complaints concerning insufficient models to choose from?

Answer: There may be such complaints. However, they are not entirely justified. Presently there are 458 available standardized plans for house buildings for rural areas, within 47 series, involving the use of bricks, big blocks, panels, and wood elements. The list is based on designs for 19 industrialized series and their modifications, including 184 standardized houses and blocks-sections, including 105 adapted for farmstead construction.

However, not all designs offer comfortable housing unit layouts and good architectural solutions, which is the reason for the rural population's complaints.

Guided by the CPSU Central Committee and USSR Council of Ministers decree "On Developing Further the Construction of Individual Housing and Consolidating Cadres in the Villages," the RSFSR Gosstroy organized the drafting of standardized plans for rural homes with improved layouts, based on new norms. A list of standard plans for house buildings of series No 115, for individual construction, has been approved.

The Russian Kolkhoz Construction Association has drafted plans for big panel housing using pressed wood tiles and effective insulation materials, to be produced by the Penza and Altay housebuilding enterprises. Experimental block homes are being designed, consisting of wood and concrete modules. Let me emphasize that the Russian Kolkhoz Construction Association and its design institutes are displaying greater initiative in the search for new and effective solutions. The list of plans for public buildings suitable for rural construction has

been extended as well through the addition of new designs. Of late the number of standardized plans for panel and frame-panel buildings has nearly tripled. Presently, over 350 standardized plans for public buildings serving a variety of purposes, suitable for rural construction, are available in the republic.

In the future the planning and construction of residential buildings in the villages will be based on the recently adopted CPSU Central Committee and USSR Council of Ministers decree "On the Further Development of Plant Production of Wooden Panel Homes and Sets of Wooden Parts Made of Local Materials, for Rural Housing Construction."

The question of a suitable type of rural home includes a complex subject such as the character of the individual house. Even a one-story rural home should project upwards. In our view, this condition is best met by building homes with attics or split-level houses. The house itself must be in harmony with the utility buildings of the private plot. Extremely few plans for rural houses with garden utility buildings may be found within the industrial series mastered by urban house-building enterprises. Plans for rural housing used in Siberia and some Far East areas have caused many justifiable complaints. They do not always take into consideration the complex natural-weather conditions, and the living traditions of the Siberian village.

This project would benefit by involving in the designing of rural houses local institutes which have skilled cadres and established production relations with enterprises in the construction industry. Practical experience is available in this area. The joint work done between the Mordovkolkhozproyekt and Kostromagrazhdanproyekt institutes and the Reinforced Concrete Design Bureau made it possible to expand the comprehensive series 135 in accordance with the possibilities of local house-building enterprises. Such has also been the case of the Tulakolkhozstroyproyekt Institute in designing rural housing based on the 1-335-Tul series.

In 1979 the RSFSR Gosstroy, together with representatives of local organizations, made a selection of plans for village construction for each autonomous republic and oblast in the Nonchernozem zone, taking into consideration the possibilities of house-building enterprises to manufacture parts of low-storied homes with gardens. Such work will be carried out in the immediate future in Siberia, the Far East, and other parts of the republic.

Question: It was said at the July 1978 CPSU Central Committee Plenum that the reorganization of the villages largely depends on the level of industrialization of construction output. What is being done in the republic along that line?

Answer: Persistent work is being done in the RSFSR to expand the capacities of house-building enterprises of rural construction organizations. Over 30 large-panel house-building plants have been constructed with an overall capacity for 900,000 square meters of housing per year. Another 42 enterprises are under construction. Currently the capacity of house-building enterprises within the system of the RSFSR Ministry of Rural Construction, RSFSR Ministry of Water Economy, and the Russian Kolkhoz Construction Association totals 2,260,000 square meters of housing per year and will reach 4.3 million square meters by 1981. The conveyor belt production of rural homes consisting of lightweight panels and effective insulation materials has been organized at the house-building combine of Penzenskaya Oblast. The planned capacity of the enterprise is 200,000 square meters of general area or 2,000 house buildings per year. The construction of a similar enterprise in Altayskiy Kray is nearing completion. The manufacturing of rural one- and two-story plaster-concrete housing has been mastered at the Krasnoufimsk Plant in Sverdlovskaya Oblast.

The practical experience of the house-building enterprises confirms the high effectiveness of this progressive form of industrial construction in the countryside. Thus, in 1978 alone the Saratov House-Building Combine completed 240 residential buildings totaling an area in excess of 40,000 square meters. The enterprise has mastered the production of five types of fully preassembled rural homes, including one-story duplexes with utility buildings, two-story buildings with gardens, and houses with attics. The experience of the Gul'kevichskiy Rural Construction Combine in Krasnodarskiy Kray is worth disseminating. This combine has organized the construction of residential housing on a conveyor belt basis. The combine produces ready-made room units with which a brigade of assembly workers could put together an 18-apartment house building in 20-25 days.

Yet, we should emphasize that most operating rural house-building combines make poor use of their production capacities and, as a rule, are slow in developing the production of one- or two-story houses with gardens and of public buildings. The slowest development of the capacities of house-building enterprises is in Siberia and the Far East where, so far, there are nine large-panel house-building combines of the RSFSR Ministry of Rural Construction and three plants of the Russian Kolkhoz Construction Association with a total capacity for about 500,000 square meters per year.

The RSFSR Gosstroy, RSFSR Ministry of Rural Construction, and Russian Kolkhoz Construction Association have jointly considered matters related to improving the work of the operating and the further development of the network of rural construction and house-building combines. Additional assignments have been approved for the development of house-building combines and specific measures have been earmarked to raise the

prefabrication level and the quality of produced structures and parts. The variety of completely preassembled buildings used in comprehensive rural construction has been broadened.

However, the measures planned for the development of the house-building combines within the rural construction organizations do not resolve the main problem of the use of the major capacities of urban facilities for large-panel house building in rural construction. A certain percentage of such capacities should be applied to rural construction.

In conclusion, I would also like to point out that the most important obligation of the councils of ministers of ASSR's, kray executive committees, oblast executive committees, ministries, departments, and the RSFSR Gosstroy, in the reorganization of the villages, as formulated by the 25th CPSU Congress and the subsequent CPSU Central Committee plenums, is to upgrade the quality of housing construction and rural housing conveniences, and to develop the building of the type of rural settlements which would be both expressive and varied from the architectural-aesthetic viewpoints.

One of the important means for streamlining construction in the villages and upgrading the quality of the building of rural settlements is to further improve the work of local architectural-construction organs.

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CONSTRUCTION

LENINGRAD'S FLOOD BARRIER DISCUSSED IN RAYKOM MEETING

Leningrad LENINGRADSKAYA PRAVDA in Russian 29 Feb 80 p 2

[Article by A. Tyutenkov; "A Deep Test"]

[Text] The construction of a complex for protecting Leningrad against floods is today becoming a real and specific task of thousands of people, a task which has become a part of the state plan. Some collectives are preparing technical documentation, others are advancing through a snowstorm over the ice in the Gulf of Finland while measuring the gulf's depth and defining the geology of the bottom more precisely, a third group is carrying out repairs on the powerful dredging units so as to be sure that they will be ready for work in the spring and a fourth group is engaged in cutting openings in the ice or creating support production bases.

There are many other thousands of individuals who envy these initial workers and who dream of personally participating in the construction of these unique installations.

"I consider it my civic duty to make the best possible contribution towards this grandiose construction operation. I believe that there are many others who agree with me: every resident of Leningrad, in terms of the work performed by him, will respond to the concern being shown by the party and government for the city on the Neva River" stated a veteran of war and labor, fellow countryman N. Perepelov, in a letter addressed to the editorial board.

"Leningrad is an object of pride on the part of our Soviet people. We defended it against the fascist invasion and we must protect against natural calamities. I would like to devote a month's vacation time to this work" proposed a former soldier of the Leningrad Front, Kh. Shakirov from the Bashkir ASSR.

Upon reading similar letters, and there are many that have been addressed to the editorial board, one is filled with respect and gratitude to the authors, for whom active participation, patriotism and the desire to be not merely

witnesses but in fact creators of the events taking place, have become inalienable features of their nature.

During a meeting of the bureau of the Zhdanovskiy Rayon Party Committee, where a discussion was held on measures for accelerating the construction tempo for the hydraulic engineering complex, the leader of a brigade of mechanics at the Il'ich Abrasive Plant, V. Safonov mentioned a meeting that had taken place in their department. During this latter meeting, the workers, engineers and office personnel resolved to work one day at the complex, during their free time and on a gratuitous basis, and they appealed to workers at other enterprises to follow their example.

There can be no doubt but that before long the assistance to be furnished by volunteers will be very meaningful. Indeed, the realization of this grandiose project requires the movement of 54 million cubic meters of soil, the removal from the bottom of the bay of more than 20 million cubic meters of dirt, the production, installation and adjustment of 100,000 tons of mechanisms and metal structures, the laying of 2.5 million cubic meters of concrete and reinforced concrete and the driving into the bottom and shores of 100,000 tons of metal pilings.

Indeed the problem now is one of completing a volume of work, 2-3 years prior to the completion of construction work on the complex, planned for 1990, that will practically eliminate the danger to Leningrad caused by the usual if not the most severe types of floods.

A very thorough and fundamental discussion was held on solving this task during a meeting of the bureau of the rayon committee. It commenced with the principal consideration -- approval of the contractual plan for creative and scientific-technical collaboration among the collectives participating in the creation of the complex. In the meantime, the document was signed by the principal partners, including the Leningradenergoenergospetsstroy administration, Leningradproyekt Institute, the trusts of Sevsapmorgidrostroy, Gidroelektromontazh, Sevsaptransstroy, Motor Transport Enterprise No. 16 and others.

In March, when the meeting of the party-economic aktiv of builders of the complex is to be held, industrial enterprises engaged in the production of equipment and more than 50 institutes which are carrying out studies and planning will join the contract. The principal thrust of the contract is formulated briefly in its motto: "Technical progress and scientifically valid solutions, a minimum of material expenditures for construction and maximum effectiveness, reliability and longevity for the installations and a high level of technical aesthetics!"

The desire to achieve collaboration is fully understandable. It represents a thorough test of all of our reserves in totality. Experience has shown that only united efforts can provide us with successful solutions for the type of national economic problems that occurred at the Sayano-Shushenskoye GES, where an economy of tens of millions of rubles in the use of resources

is being achieved simultaneously with an acceleration taking place in the operational tempo.

In the given instance, the contract moves to the forefront such tasks as ensuring the complete and continuous erection of protective dikes, so as to reduce the schedules and lower construction costs and the creation, for the very first time in international practice, of hydromechanical equipment, water discharge structures and shipping lanes 110 and 200 meters wide. Unique underwater tunnels must be planned and installed for a 6-lane highway, which will pass across the top of the protective installations. Concern must be displayed for achieving a favorable hydrological regime and sanitary condition for the water area of Neva Bay, under the conditions imposed by the accelerated construction work.

It is difficult even to enumerate all of the problems which must be solved as rapidly as possible and in the most effective manner.

Clear goals and clear prospects have been outlined. However, the deputy chairman of the Executive Committee of Lensovet [Leningrad Soviet of Workers' Deputies] A. Nosikov, the first secretary of the Zhdanovskiy Rayon CPSU Committee G. Semibratov and the chief engineer for the project S. Agalakov, when speaking before the bureau, noted that the degree of success to be achieved in the future will be entirely and completely dependent upon how well we prepare for our future work today: great volumes of work will not be completed on the basis of sudden and impetuous periods of work.

Unfortunately, a high work tempo has still not been achieved. Last year, for example, 5.4 million rubles were assimilated, considerably less than the amount allocated for construction. Moreover the general contractor -- the Leningradenergoaspetsstroy administration -- turned out to be the greatest debtor.

Hence, today's task is considerably more complicated. In addition to assimilating 26 million rubles allocated for the current year, we must also make up for work not completed in the past.

In view of this fact, the rayon party committee and those participating in the contract for collaboration prepared and approved socialist obligations for this current year and they included in these obligations such important reserves as improving the organization and technical level of production, concentrating forces and resources on priority projects, raising the workloads of mechanisms and introducing the brigade contract method. In honor of the 110th anniversary of the birth of V.I. Lenin, the decision was made to complete the measuring off of the construction base at Gorskaya ahead of schedule. The dredging work in the vicinity of Kotlan Island will be completed by November and a gravity-flow collector sector 610 meters long and 1 kilometer of high voltage cable lines will be laid 2 months ahead of schedule.

Special importance is being attached to supplying the construction project with nonmetallic materials and thus all work concerned with preparing the quarries, highways, railroads and freight receiving stations must also be completed ahead of schedule. On the whole, the annual program for installing moorings and construction bases at Gorskaya and on Kotlin Island, from which points the work is being carried out along a broad front, will be completed by 20 December.

It can be stated directly: good and well thought out preparations will correctly resolve the fate of both the current and long-range plans. It will be impossible to assimilate more than 400 million rubles worth of capital investments during the Eleventh Five-Year Plan if a reliable stockpile is not created today or if the obligations are not reinforced by a sound program of organizational-technical and mass-political measures. The Zhdanovskiy Rayon Party Committee developed just such a document. A number of important questions are set forth in it: the organization of a coordination council for construction and a staff for patronage assistance, the effectiveness of the socialist competition and party support for it and incentives for the winners of the competition -- everything, including the creation of exemplary domestic conditions for the production collectives. It must be assumed that strict party control over the carrying out of these measures will play a considerable role in accelerating the rates for erecting the complex.

At the same time, the bureau drew attention to those tendencies which today are already seriously restraining the programmed rhythm of the all-union komsomol construction project. First of all, the formation of the principal collective -- the Lengidroenergospetsstroy administration -- is being delayed. At the present time, it has 500 individuals and they are carrying out 25,000-30,000 rubles worth of work daily. By the end of the year, there will be a minimum of 2,000 individuals in order to accelerate the work tempo by a factor of four.

The birth of this new organization involves definite difficulties. Nor is the principal problem here a shortage of manpower -- the administration was forced into not accepting individuals for work owing to a shortage of housing facilities. But indeed other participants in the contract -- Sevzapmorgidrostroy, Sevzaptransstroy, the trusts of Glavzapstroy and Glavleningradstroy -- are capable of accepting individuals desiring work, for the erection of the complex. However, they are displaying no haste in strengthening their collectives: they insist that it is still early. During the peak period, the demand for workers invariably exceeds the number available: the simultaneous building-up of many collectives is accompanied by great problems.

It was noted during a meeting that continuous deliveries of sand and gravel to the construction project serve as a guarantee of success. The future Veshchestvo and Sysoyevskiy quarries must produce millions of cubic meters of materials. And once again a problem develops along the way. The

customer, who is now the administration for the installations under construction, is slow in solving the problems concerned with the allocation of land, preparation of the sites and documentation and others. Trust No. 50 of Glavzapstroy [Territorial Main Administration for Construction in the Western Regions of the RSFSR] is not displaying interest in those projects which should be started without waiting for the best periods of time. Certainly, reasons can be found for justifying sluggishness in the case of each one of these projects. In searching for such reasons, the partners only succeed in complicating a task requiring an immediate solution.

In order to select the best and optimum variants for the various decisions, during the stage of operational planning, preliminary experiments should be carried out on a model of Neva Bay: the pavilion for such a model is being erected by Trust No. 104 of Glavleningradstroy [Main Administration for the Housing, Civil Engineering and Industrial Construction of the Leningrad Gorispolkom]. Its estimated cost is 4.5 million rubles. In other words, a considerable volume of work must be carried out -- according to the norms, two and a half years will be required. However, in accordance with the joint obligations, it must be placed in operation at the end of next year, despite the fact that as yet not even the foundations have been laid.

Trust No. 104 and LenZNIIEP [Leningrad Zonal Scientific-Research and Planning Institute for Standard and Experimental Planning] are undertaking measures aimed at organizing collaboration. The institute's specialists are searching for planning solutions which will promote a reduction in the construction schedules and the collective of the trust is awaiting decisions and thus not undertaking effective measures aimed at accelerating the tempo. A question is being asked: why waste time carrying out actions which will have to be corrected subsequently?

Rich experience has been accumulated in Leningrad in parallel and combined planning and in the construction of unique projects. We need only recall the Yubileynyy Sports Palace, the Oktyabr'skiy Concert Hall and others. It is believed that this experience should be used and developed in a creative manner in connection with the erection of the protective complex. This will make it possible to realize a savings not only in days, but also in months and years as well.

The various collectives are being joined together for the purpose of solving this great national economic task. And today, in solving the current problems of the organizational period, a requirement exists for thoroughly analyzing those situations which may possibly arise in the future. For example, an extremely important role will be played by highway and railroad transport: they will be responsible for transporting tens of millions of tons of freight. However the transport workers are still not listed on the records of those participating in the collaboration.

Even in the bureau of the rayon committee, some partners have expressed the desire to have the solving of a number of secondary problems entrusted to

the future coordination council. This has been correctly evaluated as an attempt to avoid having to carry out one's official duties by shifting the burden to other shoulders. The council must provide answers mainly for the more important problems concerned with scientific-technical progress and to select the general operational trends to be followed by the entire collective. It is important for this factor to be clearly understood by all those participating in the collaboration.

At this unique complex, each participant in the construction work must serve as a model for proper organization, discipline and responsibility for assigned tasks and as a model for production efficiency and work quality. This will become possible only when each trust, enterprise and institute searches, in an active and purposeful manner, for methods for developing an offensive along the entire front.

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CONSTRUCTION

CONSTRUCTION PROJECTS IN SIBERIA DISCUSSED

Problems in Development

Moscow PRAVDA in Russian 15 Jan 80 p 2

[Article by N. Abovskiy, Doctor of Technical Sciences, professor and chairman of a section of the Scientific Council of the Krasnoyarskiy Kray CPSU Committee: "What Should Be Used for Construction in Siberia?"]

[Text] The construction of the Krasnoyarsk plant for heavy excavators has commenced not far from the kray center. The decision was made to build this powerful enterprise as quickly as possible. Heavy reliance is being placed upon the use of new construction structures, which as yet are still not being employed. The plans call for the use of special covering panels for large spans, columns made out of high-strength concrete and vertical ceramic-concrete panels.

The builders at the site have already completed more than 25 million rubles worth of work. The time is not far off when the production buildings will have to be erected. But what will be used for building them? The task of planning, producing and testing experimental models and placing a new structure in production operations, as a rule requires a number of years. Today the Krasnoyarsk builders still lack such structures and the preliminary work associated with creating them has only just begun. Subsequently, haste will be displayed and this can bring about a deterioration in the quality of the construction work.

During a speech delivered at Dnepropetrovsk in September of last year, Comrade L.I. Brezhnev stated: "We must study more intently those problems concerned with capital construction on the whole, we must locate the so-called bottlenecks and thereafter we must correct the situation step by step." Such bottlenecks are taking place during the course of capital construction work in Krasnoyarskiy Kray, where the development of productive forces is directed towards the formation of large TPK's [territorial'no-proizvodstvennyy kompleks; territorial production complex]. These complexes are responsible for coordinating the use of natural resources and power

engineering capabilities and for the utilization of waste products. Thus it is also important for capital construction in each of the TPK's to be developed on a complex basis: from studies and planning to the installation of technological equipment and the issuing of finished products. Such complex operations are easier to achieve if the production of materials and structures is centralized and if the principal planning work for all of the projects is concentrated in one organization. Naturally, the branch science will have some worthy input to make in this regard. Will it be able to ensure fully the carrying out of the capital construction tasks?

We will touch upon just one aspect of the problem: the effectiveness of the construction structures for regions in eastern Siberia. The question as to "what will it be made out of" affects a number of other questions. For example, how will it be possible to cope with the manpower shortage while simultaneously intensifying the work volumes and reducing the construction schedules? This can be accomplished to a decisive degree by accelerating the introduction of scientific achievements and, in particular, and through the high quality and timely processing of structures.

The Krasnoyarskiy Kray workers possess a definite amount of experience in this regard. For the development and use of reinforced concrete coverings on an industrial basis, the builders were awarded the State Prize of the USSR. At the present time, a production base consisting of several plants has been created for the production of new industrial light structures, for delivery in sets. A flow-line conveyer method for assembly and installation has been introduced. This unit has made it possible to raise productivity to 1,000 square meters of covering daily.

The kray CPSU committee's scientific council is devoting a great amount of attention to the introduction of effective construction structures and to uniting the efforts of departmental organizations. A scientific conference on structures was held in Krasnoyarsk and exhibits, seminars and other meetings were conducted. All of these actions will produce results. But analysis reveals that progressive structures for industrial and especially agricultural construction are being created very slowly throughout the kray. This is expressed mainly in the fact that no stockpile is in preparation; the branch science lags behind operational practice in this regard.

What is the reason for this? Neither in Krasnoyarskiy Kray nor in all of eastern Siberia is there one scientific-research institute subordinate to USSR Gosstroy, which could develop construction structures for the conditions found in Siberia. Similarly, among the institutes in Moscow, Leningrad and other cities, there is not one which works completely in behalf of the Siberian builders. It can be conjectured that if such a specialized scientific-research institute did appear in one of the central cities, it would immediately be moved to Siberia. Is not this specialization of advantage to somebody? Our local organizations -- Krasnoyarskpromstroyniiprojekt of USSR Mintyazhstroy [Ministry of

Construction of Heavy Industry Establishments], polytechnical institute -- are not developing new structures, since they simply lack the rights and opportunities for doing so.

One solution remains -- to use standard series developed by various central scientific and planning organizations. On the surface it would appear that it would be allright to do this. However, the experience of the Krasnoyarsk builders reveals that the standard series require considerable finishing work before they can be used under Siberian conditions. The planning, finishing off and mastering of these series are being carried out, as a rule, for the central regions of the country, using so-called average data for the workload and environment. For Siberia, it is simply necessary to recompute the same structure for greater workloads and without a qualitative change in the structure. The builders must somehow find a solution to the situation and carry out additional tests. Thus the lion's share of the resources allocated to the kray for the construction science once again disappear beyond its borders and are given to the central scientific-research institutes, whose services are required a second time. Both time and resources are expended.

Take, for example, a junction connection for the rods of a structure made out of a rolled shape -- "ugolka." Full-scale tests carried out at the Orgtekhstroy Trust of Glavkrasnoyarskstroy, under Siberian conditions, underscored their insufficient supporting capability. A decision had to be made concerning the use of these structures for a smaller workload. The Moscow workers maintain that the "ugolkas" passed the tests for other "average" regions of the country. A similar situation is taking place at the present time in Lesosibirsk, at installations of a wood-working combine. In the interest of ensuring reliability, use had to be made here of a type of structure known to be more powerful than that required for a normal situation. The number of such structures in the kray is increasing with each passing year. But here is a paradox: within the kray, a construction base for the production of structures which are not too well suited for northern conditions is increasing in size. This is true owing to the fact that the structures were created, tested and finished off outside of Siberia.

Recently, a number of experts from USSR Gosstroy paid a visit to the Orgtekhstroy Trust of the Krasnoyarsk Main Administration. They were unable to conceal their surprise: the trust is concerned with a vast range of problems of a scientific and experimental nature, which must lie within the competence of a number of Gosstroy TsNII's (central scientific research institute). The Krasnoyarsk workers are doing this not on the basis of a good life -- the plans of the main administration must be supported by somebody in terms of scientific developments. Thus, unusual work must be carried out and forces and resources diverted. It often happens that one must correct the proposals offered by colleagues, individuals who have learned about the Siberian conditions based upon hearsay or they possess a purely theoretical knowledge. Good knowledge of local conditions, a factor that is not always evident in workers attached to central scientific research institutes, enables the Krasnoyarsk workers to find effective solutions.

Thus, if we proceed on the basis of approved standards, then floors should be planned for the departments of the heavy excavator plant which will allow the excavators to move about on them. However, at the site of this construction project, the roof is not covered by a layer of snow many meters in thickness. Accurate definition of the snow load on the covering of the building for the auxiliary departments alone would make it possible to realize a saving of more than 3 million rubles, not to mention a reduction in the consumption of materials and the making available of additional transport vehicles and workers.

It must be recognized that complete and efficient use is still not being made of the scientific forces which are available in our kray. They are dispersed owing to a lack of departmental coordination. At the polytechnical institute, for example, where the principal construction specialists are concentrated and where four faculties are in operation, there is not even one overall scientific council. The Krasnoyarsk Promstroyniiprojekt of USSR Mintyazhstroy concerns itself very little with the problems of new materials and structures, despite the fact that a decision handed down by the kray executive committee obligates it to do so.

The technical policies involved in organizing the development and planning of efficient structures must be directed towards the creation of a promising design base in Siberia, without which the economic and timely creation and introduction of new developments would be unthinkable. The pursuit of this goal could be furthered by the creation in the kray of a sufficiently powerful branch of the Central Scientific Research Institute of Structures of USSR Gosstroy, one having a good production base. Such an institute would serve to concentrate the forces of the scientists and planners.

At the present time, against the background of rapidly developing Siberian industry, it has become increasingly apparent that the branch construction science in our region lags considerably behind the requirements of the giant construction projects, since its organizational forms have undergone almost no development during the past two decades. In addition, those problems for which solutions have not been advanced by science must undergo further development. In the case of the Tuva ASSR, for example, a requirement exists for carrying out regionalization and for creating industrial structures, while taking into account the seismic conditions and the low (to minus 50 degrees) temperatures.

Of the institutes of USSR Gosstroy, which are united by a common management and tasks, only a large scientific center is capable of handling such large-scale tasks. In collaboration with the Siberian Branch of the USSR Academy of Sciences, it could play a leading role in the development of the productive forces of eastern Siberia.

The center for the construction science, which closely approximates production conditions, will become a powerful lever in the creation and implementation of a special purpose program for construction. Through its Siberian Branch, USSR Gosstroy should be able to coordinate effectively the

efforts of the various ministries and departments, in connection with the creation of territorial-production complexes. Such handling of the problem will be in keeping with the requirements set forth in the decree of the CPSU Central Committee and the USSR Council of Ministers concerning improvements in the economic mechanism.

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Eastern Siberia

Moscow NA STROYKAKH ROSSII in Russian No 8, 79 pp 44-49

[Article by A. Matsul', chief of Glavvostoksibstroy, honored builder of the RSFSR and prize laureate of the USSR Council of Ministers: "The Goal -- Timely Placement in Operations of Projects"]

[Text] Improvements in organization and control based upon a systematic approach. Glavvostoksibstroy is one of the largest construction organizations in the eastern part of our country. Its zone of influence includes Irkutskaya and Chitinskaya oblasti and the Buryat ASSR and thus it is making a worthy contribution towards the development of the productive forces in eastern Siberia and in the Trans-Baykal region. During the last five-year plan, among the 100 projects and capabilities placed in operation there were such large production efforts and complexes of union importance as the Irkutsk aluminum and eastern Siberian refractory plants, the Azayskiy Pit, the Usol'ye-Sibirskoye chemical-pharmaceutical and Chita worsted cloth combines and the Irkutskkabel' and Ulan-Ude Teplopribor imeni 59-Letiya SSSR plants.

The Tenth Five-Year Plan confronted the builders of eastern Siberia with more complicated tasks. This was associated first of all with the increased volume of construction-installation work (compared to the previous five-year plan, it increased by 21 percent and reached a total of 1.7 billion rubles) carried out by organizations of the main administration. In order to cope successfully with such an important task, Glavvostoksibstroy, commencing with the first year of the five-year plan, launched an extensive campaign to achieve the timely placing in operation of projects, based upon the use of programmed-special purpose methods. As a result of the consistent introduction of long term special purpose programs, 28 of 32 projects planned were placed in operation in 1976 and in 1977 only one capability of 39 was not ready for delivery. However, on the other hand, two capabilities at the eastern Siberian Refractory Plant and new departments at the Vostoksibelement and Meget construction structures plants were placed in operation ahead of schedule and in 1978 -- 27 out of 29 projects were introduced into operations either in a timely manner or ahead of schedule. In particular, over a period of 3 years the builders of eastern Siberia delivered such projects as a plant for fire-brick, turbines and boilers at the Novo-Irkutsk TETs and new capabilities at the imeni

V. Kuybyshev and Irkutskkabel' plants. Among the large underway projects for this current year -- the Central Enrichment Factory at Cheremkhovo was placed in operation in June 1979. Labor productivity increased by 13.9 percent and in 1978 by 4.9 percent.

The qualitatively new and more complicated tasks confronting Glavvostoksibstroy during the Tenth Five-Year Plan, in connection with carrying out the program for placing projects in operation and the tasks for raising labor productivity, require its subunits -- and particularly the Orgtekhtstroy trust -- to implement considerable improvements in the level of organization and control for construction. The selection of articles, information and technical advertisements published below is dedicated to this trend, one of the most important trends at the present time. The leading experience presented in these materials reflects the increasing level of engineering preparations for production and also the effectiveness of the process of improving control at construction projects in eastern Siberia and the Trans-Baykal region.

During the past few years, the builders of Glavvostoksibstroy have achieved considerable success in improving the organization of and control over construction production, reducing the construction schedules and raising its effectiveness and quality. The efficient use of programmed special purpose methods exerts a very substantial effect on the timely placing in operation of projects. The long term special purpose programs "Potok," "Podryad," "Komplekt," "Novyye Konstruktsii," "Progress," "Kachestvo," "Kadry" and "Finansy" enable the leaders at all levels to view the future prospects, to concentrate their attention on unresolved problems and to direct all effort towards the placing in operation of the projects. The foundation for successful fulfillment of the underway program is established during the stage of organizational-technical and engineering preparations.

The most important trends in technical policy, carried out by Glavvostoksibstroy, include complex engineering preparations for construction production, the introduction of leading experience based upon special purpose programs, further industrialization, extensive use of mechanization and automation, lowering the weight of structures and improving the control systems being used for computing and communications equipment.

Within the main administration and its subunits, systematic improvements are being carried out in the engineering preparations for production. These preparations are based upon a common program for the formation of the annual plan, with a selection being made as to the proper variants for concentrating resources during the delivery stages of construction. A common engineering service in all of the subunits concentrates the efforts with regard to the development of plans for complex engineering preparations for production and the working out, for the construction brigades, of standards for the various types of construction-installation work. Network planning has become firmly established in the work being performed by the builders.

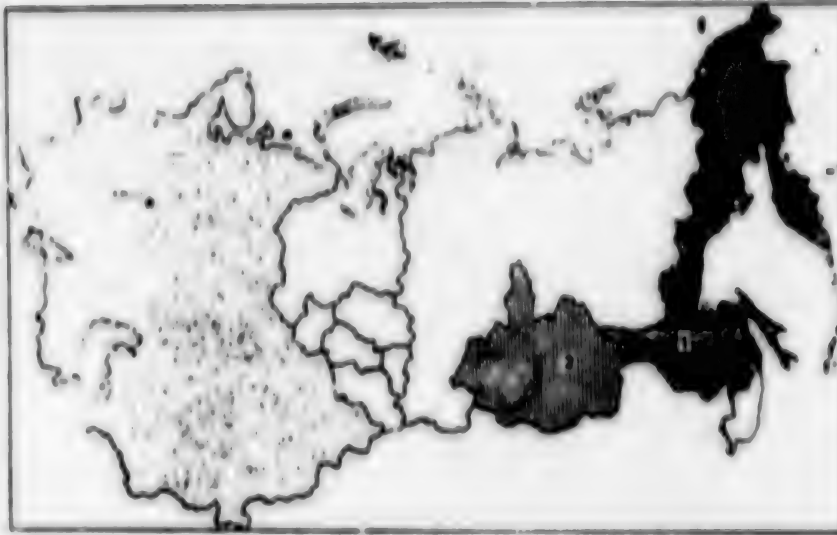
Among the measures associated with engineering preparations, special attention is being given to ensuring that the projects under construction are completely supplied with material resources in conformity with the special purpose program "Komplekt." Each quarter, for the trusts of Irkutskzhilstroy, Irkutskpromstroy and DSK [house-building combine], the resources are computed on an electronic computer according to the technological sets. In 1978, for example, the resources for Irkutsk were computed on an electronic computer for 840 projects and particularly for the stages of projects in the national economic plan. Owing to the extended use of methods associated with engineering preparations for production, the construction schedules for the main administration on the whole were reduced by 10 percent. The experience of two of our leading organizations -- the Irkutsk DSK and a trust of Irkutskpromstroy -- is rather significant in this regard.

Among the factors which determine, for example, the degree of success to be achieved by a DSK collective is use of the brigade contract method under conditions involving continuous planning and flow-line construction. The long term special purpose programs "Podryad" and "Potok" have furnished the house builders with new and broad opportunities. In the case of the first house built in 1977, use of the method of brigade economic accountability produced a savings in estimated costs of 1,600 rubles and the output per worker was raised by 10 percent.

At the present time, 55 percent of the brigades operating within the main administration have converted over to the new form of brigade economic accountability. In 1978, they performed 51 percent of the overall volume of work and reduced the construction schedules by 3,019 days.

In 1980, the economic accountability collectives will be carrying out 86 percent of the work volume in the construction of housing and socio-cultural projects.

It must be admitted that not all of the contractual brigades are working in an efficient manner. Some of them, owing to a formal attitude on the part of certain leaders, improperly selected projects and disruptions in material supply operations, have been unable to complete their projects on schedule. Thus, in conformity with the special purpose program "Podryad," specific measures were developed for 1979-1980 for improving engineering preparations when converting brigades over to the contract method, in particular for raising the quality of the planning-technological documentation, for using an electronic computer for determining the planning-estimates indices for contractual brigades, for employing a common system for computing expenditures and for improving the supplying of construction materials to the brigades. The plans also call for further use of and improvements in the flow line-brigade contract method under the conditions imposed by the Orlovskaya "Neprieryvka," contractual excavating-transport complexes in the working of soil and the brigade contract method in the carrying out of pile-driving work and fulfillment of the entire zero cycle, the creation of installation-transport brigades and the development of a contract for driver personnel.



On Leading Experience

Key:

1. Glavdal'stroy [Main Administration for the Construction of Industrial Establishments in the Regions of the Far East] (Khabarovskiy Krai, Amurskaya, Sakhalinskaya, Kamchatskaya and Magadanskaya oblasti), see Issue No. 8, 1978
2. Glavvostoksibstroy (Irkutskaya and Chitinskaya oblasti, Buryat ASSR), in this issue.

In order to ensure the construction of large panel houses, in accordance with the schedules for continuous construction, construction flow lines are being created at DSK's which subsequently are converted over to the contract method. The availability of contractual flow lines that operate in a stable manner has made it possible to implement long-range planning and to develop an engineering model for continuous planning for housing construction. Jointly with the Orgtekhstroy Trust, such a model was developed for Irkutsk for the 1978-1982 period, that is, for the "Irkutsk five-year plan."

The introduction of flow-line construction at the Irkutsk DSK promoted, in 1978, a reduction in labor expenditures of 9,500 manhours and furnished an annual economic savings of 85,400 rubles. It is significant that the implementation of the measures embodied in the "Potok" program led to a reduction in the volume of unfinished construction in recent years of 1.2-1.3 times. During 3 years of the Tenth Five-Year Plan, 29,500 square meters were placed in operation over and above the figure called for in the established planning tasks.

In the successes achieved by the house builders, an important role was played by a well organized system of production-technological equipment completion, the introduction of which was called for by the long term special purpose program "Komplekt." Its implementation required changes in

some structural elements of the main administration and even the creation of new ones -- the Vostoksibstroykomplekt Trust.

Another one of our leading organizations -- the Irkutskpromstroy Trust -- is distinguished by use of the complex engineering approach. Since the Beginning of the Tenth Five-Year Plan, it has used more than 70 million rubles on the basis of a general contract and using only its own forces it over-fulfilled its task for construction-installation work by 0.5 million rubles. Thus, in 1977 all 24 of the projects planned for delivery were placed in operation and in 1978 -- all 27. Over the past 3-4 years, the collective accelerated to a considerable degree the rates for construction and for growth in labor productivity, while ensuring the rhythmic placing of projects in operation. They built a scientific center on the left shore of the Angara River: academic institutes, scientific and laboratory buildings and a comfortable residential area. Since 1976, the trust has been specializing in the erection of large industrial projects: the placing in operation ahead of schedule of the principal capabilities at a plant for metal construction structures at Maget, the Heavy Machine Building Plant imeni Kuybyshev at Irkutsk, the first two units of the Novo-Irkutsk TETs and the Mel'nikovskaya Poultry Factory, the capability of which, following the completion of construction, will be 1 million laying hens.

It bears mentioning that agriculture occupies an extremely important place in Glavvostoksibstroy: the Zaigrayevo, Mel'nikovskaya, Priangarskaya and Usol'skiy poultry factories and a meat and dairy complex at Biryusinsk have been placed in operation and are undergoing further expansion and the builders are erecting a duck farm at a fine rate of speed (two of the buildings were placed in operation ahead of schedule). So that the inhabitants of the Angara River area may be supplied with fresh vegetables throughout the year, Irkutskpromstroy is building a hothouse-hotbed combine in the suburbs of the oblast center. The first two hothouses for 6 hectares will be turned over this year, as called for in the "working competition," ahead of schedule.

Upon completing the contract for the competition, the trust placed a block of departments for welded structures in operation in 1978, 3 months ahead of schedule. This project was of particular importance to the Plant imeni Kuybyshev.

In the final analysis, all of the technical and organizational measures introduced within the main administration were directed towards raising labor productivity. We consider the most important of these measures to be growth in fully prefabricated construction, the proportion of which has been raised to 84.3 percent. At the present time, 1 million rubles worth of construction-installation work includes the following: 400 square meters of slabs of complete plant readiness, 127 cubic meters of footings and approximately 100 square meters of industrial partitions. Qualitative changes have taken place in the construction of public buildings and socio-cultural projects (T and F-shaped and other obsolete elements are being replaced by the new and efficient IIS-04 and II-04 series).

In connection with the special purpose program "New Structures," special attention was given to the extensive introduction of pile foundations. This was a rather natural development in view of the fact that the ground in Siberia is frozen for 7-8 months of the year and under such conditions the installation of monolithic or strip foundations is both expensive and laborious. Thus the use of piles is increasing with each passing year: compared to 1975, when the builders of the main administration sunk 30,000 cubic meters of piles, in 1978 -- approximately 44,000 cubic meters. Moreover, in conformity with the long range program, a great amount of reliance has been placed upon the introduction of progressive types of piles, the use of which increased by twofold in 1975-1978 and amounted to more than 8,000 cubic meters.

For example, tests have been completed on the sinking of pyramidal piles at a number of projects in Irkutsk. Compared to the traditional prismatic piles, their use, owing to greater supporting power, has made it possible to raise labor productivity during the sinking of piles by 3-4 times. On the whole, the schedules for fulfilling the zero cycle have been reduced by 2-3 times. The greatest effect -- up to 10,000 rubles per house -- we expect to realize from the use of pyramidal piles in the construction of large-panel dwellings. Sectional piles up to 22-24 meters in size, pile-columns and piles of small cross-sections are also being introduced into operations.

The flexible use of the "New Structures" program has enabled the Dragstroymentash Trust to convert over gradually from brick construction of the Uvol'skoye Poultry Factory to completely prefabricated construction. The next step to be taken by the collective of the trust along the path of industrialization -- a duck farm. Here the use of covering slabs of complete plant readiness reduced the volume of work associated with the installation of steam insulation and a ceramic concrete heater for the roof by 90 percent. The first three buildings of the farm were erected in just 10-12 months, although the normative period was 16 months.

We are placing great hope in the complex system for construction mechanization and in the automated system for controlling the technological processes. The special purpose program "Progress," which was initially introduced in the main administration 5 years ago, has already succeeded in proving its high level of effectiveness. We believe that this came about owing to efforts aimed at lowering the level of labor expenditures and raising the level of manual labor, not through the mechanization of individual types of work but rather by solving a more complicated task -- reducing labor expenditures for a complex of operations on the whole. The first and most important step in this direction was the conversion of brigades over to working on the basis of standards for the various types of work (mandatory technology), with use being made of a separate set of norms, mechanisms, equipment and instruments. The output in such brigades is increasing by an average of 8-10 percent.

In 1977, 163 sets of norms were introduced for various types of work and in 1978 245 sets were employed in accordance with a mandatory technology. At

the present time, 21 percent of the brigades (in all, there are 780 in Glavvostoksibstroy) are being supplied with these sets of norms. It is interesting to note that the majority of lower echelon collectives have overcome the psychological barrier associated with the use of plastering and painting stations, instrument workshops and linoleum stations. This is explained to a considerable degree by the fact that with each passing year the units and mechanisms being created at enterprises of the main administration are becoming more suitable for operations and more effective. In turn, all types of agitation work serve to promote the extensive use of these units and mechanisms: at the present time, there are 136 plastering and 52 painting stations and 26 instrument workshops performing work for residential housing construction in Irkutskaya Oblast alone.

The subunits of the main administration are waging an active campaign aimed at reducing manual labor expenditures for the carrying out of earthwork. In 1978, the processing of earth manually was reduced by 34,000 cubic meters simply by introducing, at the Irkutskspetsstroy Trust, hinged blades for trench hoe excavators and the use of hydraulic hammers and micro-explosions for loosening the soil. By the end of the five-year plan, the introduction of complex mechanization will have raised the use of machines in construction by 5 percent. In carrying out this work, we are relying upon a maximum degree of technical re-equipping being carried out, particularly in behalf of the contractual brigades.

The introduction of the special purpose program "Quality" is producing a solution for one of the most important tasks confronting the builders of eastern Siberia -- raising quality. The main administrations existing system for controlling the quality of construction output was one of the principal elements of the complex system introduced for controlling quality, which is based upon a system of standardization. Its objectives have included not only methods for controlling quality but also methods for controlling the technological processes. At the present time, five enterprise standards have been developed for the technology of construction-installation work: plastering, painting, tile work, facing work and installing the framework for buildings of the IIS-04 series. Guarantee certificates developed by Orgtekhstroy are issued for the buildings. In accordance with the guarantee certificates, in 1978 15 percent of the housing was provided by the Irkutskzhilstroy Trust and 20 percent by the Irkutsk DSK.

As a result of the introduction of individual elements of the system, the level of construction quality within the main administration is improving with each passing year. During the 1975-1978 period, for example, industrial, housing and socio-cultural construction projects were turned over for operation, with grades of good or excellent (in percent), as follows:

| | 1975 | 1976 | 1977 | 1978 | |
|----------------|------|------|------|------|----------------|
| Housing | 59.7 | 68.6 | 67.3 | 70 | useful area |
| Socio-cultural | 76.9 | 80.6 | 88.5 | 89.5 | estimated cost |
| Industrial | 76.5 | 55.8 | 78.3 | 82.9 | estimated cost |

Within Glavvostokstibstroy there is a main technical inspectorate for controlling the quality of construction and the products produced by enterprises of the construction industry. Its personnel structure includes leading and engineering-technical workers from the main administration and specialists from the Orgtekhstroy Trust and a design bureau of the construction industry. All work by the inspectorate, which is regulated by two enterprise standards, is carried out strictly in accordance with plans which are composed for a year or quarter. The inspection results are examined during monthly meetings, for the same day and hour and under the chairmanship of the first deputy chief of the main administration. Strict punishments are handed down for all flaws noted and decisions are undertaken aimed at preventing flaws in the construction output. Technical inspections, created at construction laboratories and technical departments, are also in operation at the trusts, DSK's and associations. In a control system the control functions are carried out by engineers on the basis of quality.

In the field of operational control, work is proceeding with the ASU-OV system based upon and ODC [operativno-dispatcherskaya gruppa; operational dispatcher group] and weekly-daily planning. This made it possible to raise considerably the organizational level of control, to ensure clear and timely information on the status of especially important projects and to exert an operational influence on the course of construction.

In accordance with a firm schedule established by the operational group, meetings are held involving the participation of the general contractor, clients, completion organizations, sub-contractors and representatives of the planning institutes. The operational control over the course of work carried out directly at a construction site is exercised by the staffs of the construction projects over especially important and particularly the underway projects. In the absence of such control and timely regulation of production operations, the builders would be unable to ensure such a high level for the pacing of projects in operation, either on schedule or ahead of schedule.

A very important role in this regard is played by the continuing development of a technical base for an ASU [automatic control system]. The IVTs [information and computation center] of the main administration presently has three electronic computers, two of which operate only for Irkutsk organizations. At the IVTs and the Irkutsk DSK, YeS-1022 electronic computers have been installed for solving those city construction tasks advanced by the "Irkutsk Five-Year Plan." The Altay radiotelephone system,

planned and introduced by Orgtekhstroy, has been placed in operation. The ASOI (avtomatizirovannaya sistema sbora i obrabotki informatsii; automatic system for assembling and processing information) information system is in operation for projects of the RSFSR title list, the work of staffs at projects of the UKS (administration of capital construction) of the municipal executive committee has been organized and the systems for controlling fulfillment of contractual agreements, weekly and daily planning and others are being mastered.

The effectiveness of work carried out on the basis of complex long term programs is fully confirmed by the results of the timely and ahead of schedule placing in operation of a number of important projects. Thus three capabilities were placed in operation during the first 6 months of 1978 -- at the Artem-IV-A and Kholbol'dzhinskiy coal pits and at the Tayshet elevator -- 13 capabilities during 9 months and 27 capabilities during the year. The builders of the main administration carried out all of their annual obligations. The following facilities were placed in operation: a central enrichment factory for the Artem-IV-A pit, Irkutsk Dairy Plant, purification installations for the Biryusinsk Hydrolysis Plant, motor vehicle assembly plant (branch of Moscow Automobile Plant imeni I.A. Likachev) at Chita and capabilities at a chemical pharmaceutical combine and at the Khimprom Association in Usol'ye-Sibirskoye. The first carton was obtained at the Cherenkhovo Cardboard-Ruberoid Plant and all of the tasks for the RSFSR Ministry of Agriculture were fulfilled. The cities in the Angara River region decorated their new public buildings and more than 550,000 square meters of housing space were made available for the new settlers.

The consistent introduction of special purpose programmed methods enabled the builders of Glavvostoksibstroy to carry out the tasks of the "Irkutsk Five-Year Plan in a confident manner -- 655 million rubles worth of construction-installation work, or 67 percent more than the figure for the Ninth Five-Year Plan, must be carried out. Moreover, 1.34 million square meters of housing space must be placed in operation, compared to only 916,000 square meters during the past five-year plan. At the present time, the Irkutsk DSK is converting over to the new 135 series. By 1982, 70 percent of the dwellings completed by the DSK will be in this series. The residents of Irkutsk will receive 10 new general educational schools, five large medical institutes, 30 pre-school institutes and dozens of socio-cultural projects. An intelligent engineering approach alone will enable us to solve these tasks. Thus, based upon long term special purpose programs, further efforts by the builders of Glavvostoksibstroy will be directed towards intensifying the complex engineering handling of all stages of construction, accelerating in every possible way the introduction of modern scientific and engineering achievements and improving control over construction production. Indeed, improvements in the effectiveness of the work being performed by the builders and the achieving of our principal goal -- the timely and ahead of schedule placing in operation of projects -- are in the final analysis dependent upon the above.

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CONSTRUCTION MACHINERY

PLANS FOR GROWTH IN CONSTRUCTION MACHINERY INDUSTRY

Moscow STROITEL'NYYE I DOROZHNYYE MASHINY in Russian No 1, Jan 80 pp 1-3

[Article by V. K. Rostotskiy, USSR first deputy minister for construction, road and municipal machine-building: "1980--the Final Year of the 10th Five-Year Plan"]

[Text] The final year of the 10th Five-Year Plan, 1980, has begun. The Soviet people have accomplished a great deal in the past four years.

Industrial output in this period has increased 103 billion rubles, or 20.3%. The country's fixed capital in 1976-79 increased 273 billion rubles and at the start of 1980 totalled over one trillion rubles.

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Industrial output in 1980 will total 633.6 billion rubles. This represents a 2.7-fold increase over industrial output in 1965 and a 3.9-fold increase in the leading branches of industry, which set the pace of scientific-technical progress--in machine-building, electric power engineering, chemical and petrochemical industries.

The five-year plan's production targets for four years have also been fulfilled by the workers of the construction, road and municipal machine-building industry.

The 1979 plan production target has been fulfilled by 100.5% for a 4.2% increase over the previous year. The number of industrial workers increased only 0.3% for the year. More than 100 of the industry's enterprises fulfilled their annual targets with no increase in their labor force. The targets for delivery of machines, equipment and spare parts to the agricultural sector have been overfulfilled: spare parts--108%, excavators--102%, stump pullers--106%. 5.19 thousand primary machines or 102% of the 50.9 thousand unit target were delivered to the agricultural sector in 1979.

The USSR Supreme Soviet has approved the plan for economic and social development of the USSR for 1980. This plan in accordance with the decision of the 25th CPSU Congress provides for the further development of the economy and culture of the Soviet Union. During the year the national income will increase 4%, industrial output 4.5%, group "B" output also 4.5%. Housing units totaling 109.4 million square meters will be constructed.

The 1980 production plan for the Ministry of Construction and Road Machine-Building has been approved. It provides for the further increase in output for all primary machines and equipment for the construction materials industry. The annual output of the Ministry's plants exceed 4 billion rubles for the first time since its inception.

In addition, one should note that during the 10th Five-Year Plan the prices for the Ministry's construction and road machines and other products were repeatedly reduced. The total price reduction amounted to more than 400 million rubles.

However, the 1980 plan provides for a slight reduction in the overall rate of the Ministry's industrial output in order to insure priority supplies of rolled metal and other material resources to the agricultural sector and associated machine-building industries, and also to the rail-transport and fuel industries. Thus, the workers of the Ministry's plants are specifically called upon to use sparingly rolled ferrous metals, raw materials and fuel in order to achieve maximum economy and use from every kilogram of metal, every kilowatt-hour of electricity, every ton of coal.

The projected 1980 output for the primary product types of the Ministry of Construction and Road Machine-Building is given below.

| | |
|---|--------|
| Excavators, units | 37,200 |
| Spare parts for excavators, millions of rubles | 113.6 |
| Bulldozers, units | 45,985 |
| Scrapers, units | 9,480 |
| Road graders, units | 6,800 |
| Loaders, units | 6,000 |
| Truck-mounted cranes, units | 16,205 |
| Cranes mounted on pneumatic tires, units | 1,015 |
| Tower cranes with 5 ton and over capacity, units | 2,592 |
| Crawler cranes, units | 76 |
| Spare parts for construction and road machines, millions of rubles | 90 |
| Production equipment for the cement industry, thousands of tons | 35.8 |
| Spare parts for cement equipment, thousands of tons | 64.4 |
| Equipment for manufacture of reinforced-concrete products, thousands of tons | 105.5 |
| Production equipment and spare parts for logging and timber rafting, millions of rubles | 128.4 |
| Equipment for the peat industry, millions of rubles | 42.1 |
| Power construction tools, thousands of units | 3,075 |

| | |
|--|--------|
| Finishing machines, thousands of units | 727 |
| Elevators, units | 19,930 |
| Blowers, thousands of units | 348.1 |
| Machines for municipal use, units | 19,766 |
| Fire-fighting machines, units | 6,510 |
| Laundry equipment, millions of rubles | 60.12 |
| Dry-cleaning equipment, millions of rubles | 7.0 |
| Entertainment and household products, millions of rubles | 109 |

The 1980 plan provides for the production of 34 new kinds of industrial output in accordance with its product mix. As compared with 1979 the output of hydraulic cranes mounted on special truck frames with rigid suspension of the telescoping boom and a lifting capacity of 25, 40 and 63 tons will more than double. These cranes will be produced on the basis of international cooperation with the Polish People's Republic. The advantage of this type of cranes is their great maneuverability and also the combining in one machine of heavy lifting capacity (as in crawler cranes and those equipped with pneumatic tires) and considerable transport speed (as in truck-mounted cranes).

1980 will see the beginning of the serial production of heavy construction and road-building machines, using as a base the T-330 tractor manufactured by the Cheboksary Industrial Tractor Plant. This will make it possible to increase the unit capacity of the corresponding construction machines.

Using this tractor, the Sterlitamak Construction Machine Plant will produce the first series of TG-502 pipelayers with a lifting capacity of 50 tons. These machines will be used first and foremost for the laying of new oil and gas pipelines under construction in Siberia. Two of the prototypes of these machines were manufactured in 1979, and 1980 will see the production of 40 such pipelayers.

The Chelyabinsk Plant for Road-Construction Machines imeni Kolyushchenko will produce the first industrial series of bulldozers with a non-rotating blade, using as a base the T-330 tractor together with a ripper, a development which will represent the beginning of the production of new models of heavy digging machines mounted on this tractor.

Using the T-330 tractor as a base, the Balakovo Plant for Self-Propelled Digging Machines produced in 1979 the prototype of the DZ-79 trailer-scraper with a capacity of 15 cubic meters, a development which represents the first industrial output of this new plant still currently under construction. In 1980 this plant is slated to produce 15 of the DZ-115 self-propelled scrapers.

Using as a base the T-330 tractor, the Orsk Plant for Construction Machines will manufacture self-propelled pile-drivers designed to drive piles 12 to 16 meters in length.

Among the new excavators planned for serial production in 1980 one can note the general-purpose hydraulically-operated caterpillar excavator with a scoop capacity of 1.6 cubic meters, which will be produced by the Voronezh association "Plant imeni Komintern."

The Kiev "Red Excavator," the Kovrov and Kostroma "Metal Worker" Excavator Plants will also manufacture batches of tractor-type caterpillar excavators.

Using as a base the TT-4 tractor, the Dmitrov Excavator Plant will produce the first series of hydraulic bucket-wheel excavator for trenching in thawed and frozen ground.

The Kiev "Red Excavator," the Kalinin and Kovrov Excavator Plants will produce batches of hydraulic hammers for the EP-2621A, EO-3322B and EO-4121 hydraulic excavators designed for loosening frozen ground. The Kalinin Excavator Plant will produce a batch of excavators with a scoop capacity of 0.5 cubic meters with a semi-automatic control system for lay-out work. Using as a base the frame of the ZIL-133G1, the Drogobych Plant for Truck-Mounted Cranes will manufacture an industrial series of hydraulic truck-mounted 10-ton capacity cranes with a rigid boom suspension.

The plants of Soyuzstroymash will produce the first industrial series of new tower cranes: the 10-ton capacity KB-504 with a maximum lift height of up to 75 meters; the 12.5-ton capacity KB-676 with a maximum lift height of up to 120 meters.

In order to mechanize the laying of in situ concrete the Nyazepetrovsk Plant for Construction Machines imeni Kalinin is developing self-contained disributing booms with concrete carrying chutes 100-125 millimeters in diameter and 18 meters long. Using the T-130 tractor as a base, the Orsk Plant for Construction Machines is developing concrete placers with an output of up to 20 cubic meters/hour with a feed extension of up to 12 meters.

Using as a base the frame of the KamAZ-5511 truck as well as hydraulically operated truck-mounted concrete pumps SB-126, the reactivated Tuymazy Plant for Ready-Mix Concrete Trucks in 1980 will begin production of new construction machines--ready-mix concrete trucks with a capacity of 4 cubic meters.

Production of complete assemblies of the DS-110 machines for rapid construction of roads 7.5 meters in width and with a capacity of 1,000 meters/shift will continue.

TO-11 single-scoop wheeled loaders with a 4 ton capacity and a K-702 industrial tractor base will be produced.

Using as a base the K-702 wheeled tractor, the Chelyzbinsk Plant for Road-Building Machines will produce D-661 bulldozers with a non-rotating blade and DZ-74 semi-trailer scrapers with an 8 cubic meter capacity scoop.

The Kremenchug Plant for Road-Building Machines will produce DS-95 portable asphalt mixers with a capacity of 50 tons/hours.

The Mozyr's Plant for Land Reclamation Machines will produce 30 complete assemblies of machines for laying plastic trenchless drainage pipes to a depth of up to 1.8 meters at an established grade on lands being drained, and also a batch of milling excavator-trenchers for digging drainage ditches to a depth of up to 1.2 meters.

Using the TT-4 tractor as a base along with a hydraulic manipulator and a felling-cutting device, new LP-49 felling-skidding machines will be produced. Using the TT-4 tractor as a base, the Sverdlovsk Plant for Logging Machine-Building will manufacture the first industrial series of new LP-51 self-propelled branch-trimming machines with continuous tree feed and a capacity of 500-700 trees/shift.

Heavy suction dredges with a capacity in compact soil of up to 200 cubic meters/hours will be manufactured by the Poti Machine-Building Plant for Hydromechanization.

The Volga Plant for Cement Machine-Building "Volgotsemmash" will begin production, with delivery in 1981, of a new rotating furnace for dry-method production of cement having a capacity of 3,000 tons/day (1 million tons/year).

The Vyksa Plant for Crushing-Grinding Equipment will produce five standard sizes of new crushers and crushing assemblies designed for various purposes.

The Kokhma Plant "Strommashina" will test a two-level mill, which constitutes part of the equipment of a plant for large-panel housing construction to be used in the manufacture of panels totalling up to 180 thousand square meters of surface annually. This same plant will produce the first complete assemblies of SMZh-537 equipment for production of reinforced-concrete half-frames for the construction of animal husbandry complexes.

The Cherkassy Plant "Strommashina" will produce complete assemblies of equipment for the manufacture of reinforced-concrete non-ramming pipes 300-600, 800-1200 millimeters in diameters, using a radial pressing method.

The Arzamas Plant for Municipal Machine-Building will produce the first series of KO-709 sidewalk-cleaning machines with a cleaning width of 1.5-1.7 meters including a complete assembly of sweeping, plow-brush and spraying equipment for cleaning sidewalks in winter and summer. Because of the great need for such machines the Ministry is planning to build in the town of Faleshty in the Moldavian SSR a specialized plant for production of sidewalk-cleaning machines with an annual output of 10,000 machines. Preliminary work will begin in 1980 at the construction site of this plant.

The program for saving metal and fuel is among the most important goals of the 1980 plan. Established in the plan is a goal for reducing the standard

expenditure of rolled metal 3.9%, electricity 2% and fuel 0.26%. It is the job of each production collective, design and production institute to insure the fulfillment and overfulfillment of these goals in order to increase output through use of raw materials saved.

Reducing the amount of manual labor is an extremely important goal for the workers of the Ministry of Construction and Road Machine-Building. The Ministry has achieved in this area considerable success and currently leads all other machine-building ministries in the level of labor mechanization. In 1979 the Ministry's level of labor mechanization reached 59.9% as compared with 53.8% throughout the machine-building industry. The goal of the 1980 plan is to achieve a 61% level of labor mechanization as compared with an expected 54.4% throughout the industry. The effect will be to save the work of 2,300 workers. Given the country-wide shortage in the labor force meeting the goals for labor mechanization will in the next few years be the only source for increasing industrial output.

For the purpose of developing mechanization and thus reducing the reliance on manual labor the establishment of 5 totally mechanized shops, design and installation of 55 mechanized production lines, installation of 50 machines with digital program control are planned for the industry's plants.

The 1980 plan provides for the further assimilation of advanced production processes, the mechanization and automation of labor at the Ministry's existing plants. Thus, the production of castings in totally mechanized shops will be increased to 504 thousand tons, and the totally mechanized production of forgings and stampings will increase to 868 thousand tons. The level of mechanization and automation of welding work will increase up to 80% though use of progressive welding equipment. The use of blade tools made of elbor and other superhard materials using a boron nitride base will total 65 thousand carats. In assembly work the use of general-purpose assembly devices will increase to 75 thousand lay-outs.

The capital investment plan provides for the further development of industrial capacity of plants with a considerable portion of the capital investment (40.6%) allocated for modernizing and refurbishing existing plants, whereas 27.9% of capital investment had been allocated for this purpose for the entire five-year plan. 36.9% of all capital investment has been allocated for expansion of existing plants, and only 22.5% will be spent on new construction.

Considerable sums are being allocated for the development of capacity for the production of material-handling and warehousing equipment. As compared with 1979 these sums will represent a 174% increase.

The allocations for capital construction are being concentrated on a smaller number of construction projects for the purpose of speeding up the period needed for putting them into operation.

At the end of 1979 the first production areas (20 thousand square meters) were put into operation at the Tuymazy Plant for Ready-Mix Concrete Trucks. The new Faleshty Plant for Laundry Equipment was also put into operation. 1980 will see the start-up of the Volkovysk Plant for Roofing and Finishing Machines. A new high-capacity forge shop will be put into operation at the Balakovo Plant for Self-Propelled Digging Machines.

Housing with a total area of 243 thousand square meters will be constructed at the Ministry's plants.

The establishment of small farms is planned for 53 of the Ministry's plants. 4,200 hectares of land will be developed, 37 thousand square meters of green-houses will be constructed, and 1,600 seed-beds will be planted. Feeding for over 15,500 pigs and the establishment of fishing facilities are also planned.

In 1980 the Ministry's plants need to improve their technico-economic indicators: to increase output 84% through increases in labor productivity; to reduce expenditures 0.6% per one ruble of commodity production, to increase profits 5%.

Meeting both output and technical-economic indicator goals for the 1980 plan is the primary duty of all associations and plants of the Ministry of Construction and Road Machine-Building and will represent a substantial contribution to the national goal of fulfilling the plan for economic and social development of the USSR.

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BUILDING MATERIALS

GROWTH OF CEMENT INDUSTRY REVIEWED

Moscow TSEMENT in Russian No 1, Jan 80 pp 2-4

[Article: "Tasks of the Cement Industry Workers in the Final Year of the 10th Five-Year Plan"]

[Text] The country has begun the final year of the 10th Five-Year Plan. In the past four years the cement plants of the USSR Ministry for Construction Materials Industry have produced 50 million tons of clinker and also provided 63 million more tons of cement to construction projects and for export than in the same period of the 9th Five-Year Plan. Important indicators such as the industry's labor productivity, power and plant availability per productive unit, the automation coefficient and the output concentration level have improved.

The decision of the 25th CPSU Congress on the development of dry-process cement manufacture are being carried out. Five major production lines have been placed in operation.

The average hourly productivity of the kilns increased from 30.4 to 32.4 tons. Over half of all output is produced using modern production lines with kilns 170 and 185 meters in length, and also dry-method production assemblies.

A number of new developments which promote further increases in the technological level of production have been put into practice in the industry through the joint efforts of the work collectives of the institutes and plants. Among the most effective of these are:

- the production technology for sulfoaluminate clinker;
- closed-circuit pressure-fed grinding;
- the use of rod chambers in wet grinding mill trunnions;
- the use of reinforced mill linings made of rolled steel;
- fuel oil atomizers and burners, and also hydraulic seals for slurry and other pumps.

A scientific discovery has been made in the national construction materials industry. A new clinker mineral Alinite, which NIIsromproyekt (Tashkent) is using to develop low-temperature technology for clinker production, has been produced.

There are many worker collectives in the industry which, despite the difficulties of the 1978-79 winter season, fulfilled the cement production plan and their socialist commitments and also increased the effectiveness of production and the quality of output. The following organizations had a successful fourth year of the five-year plan: the "Novorontsement," "Sukholozhaktsement," Zhigulevsk, Akhangaran, Kant, Ivano-Frankovsk, Kuvasay and Rybnitsa combines, the "Voskrasensktsement," "Mikhaylovtssement," "Yakutpromstroymaterialy," and "Volkovysktsementoshifer" associations, and the Savinskiy, Leningrad, Vorkuta, Podgorenskiy, Bezmei, Novotroitsk, Krasnoyarsk, Timlyuyskiy, Teplozerskiy, Ol'shanskiy, Sas-Tyubinskiy, Chinkent and Rustavi plants.

Special mention should be made of the work of the collectives which are the industry's frontrunners.

The collective of the Sebr'yakovskiy plant, which won the All-Union Socialist Competition and holds the Red Banners of the CPSU Central Committee, the USSR Council of Ministers, the All-Union Central Council of Trade Unions and the All-Union Lenin Communist Union of Youth Central Committee, successfully fulfilled its 1979 commitments. This plant is characterized by a high level of labor productivity which exceeds the industry-wide level 1.7-fold, the highest output of its 150-, 170- and 185-meter kilns and the lowest consumption of ideal fuel for clinker burning (215 kilograms/ton).

The worker collective of the "Akmyantsementas" production association, in addition to regular successes in the All-Union Socialist Competition, placed four revolving kilns 5 x 185 meters in operation and assimilated their output capacity ahead of schedule.

The collective of the Angarsk Cement-Gravel Combine has held for nine years in a row the rotating Red Banner of the USSR Ministry of Building Materials and the All-Union Central Council of Trade Unions Central Committee. Despite the fact that the plant operates on raw materials not locally procured (limestone is transported by rail 230 kilometers, slag ash waste from the spent material of the local heat and power plant delivered in dump trucks and by water is used as the clay component) and the severe climatic conditions of eastern Siberia; the plant maintains stable indicators and produces high-quality output, overfulfilling the targets for kiln utilization and clinker production coefficient, and also reducing fuel consumption in clinker burning.

These plants have their difficulties and unresolved problems, which are being overcome through the efforts of the collectives directed by their knowledgeable plant managers and party organizations.

There are objective problems which affected the industry's performance in the first quarter of 1979 in particular. But in practice one encounters two essentially different approaches to eliminating them: an energetic, aggressive and business-like approach (as evidenced by the experience of progressive collectives) and a sluggish, indifferent one (characterized by an inability to mobilize people, make effective use of all reserves and get back on schedule).

It should be noted that in the second quarter of 1979, when there were almost no serious problems in material supplies, the industry performed considerably better, producing 5 million tons more cement than in the first quarter. However, the second quarter's plan was not fulfilled by 18 plants.

These include the "Karagandatsement," "Vol'akteament," "Mordovtsement" and "Bryanakteament" associations; the Balakleya, Zdolbunov, Krichev and Amvrosiyevka combines; the Navoi, Starooskol'skiy, Kamenets-Podolskiy, Checheno-Ingushskiy, Topki, Katav-Ivanovsk, Karadagskiy and Chernorechenskiy plants, which in four years of the five-year plan had a total shortfall of over 8 million tons of cement.

Characteristic of lagging plants are a high level of equipment breakdown, unplanned equipment downtime, systematic violations of production and labor discipline, low production standards, lack of genuine concern for the training of qualified worker cadres, their poor utilization and an undemanding attitude toward subordinates.

Normal here are the use of production processes with considerable deviations from established output standards, stoppages due to lack of slag and necessary fuel and raw material reserves. In some instances primary assemblies have been poorly prepared for maintenance.

For example, in June 1979 kiln No 2 at the Karachayevo-Cherkesskiy plant was stopped for three days for replacement of the drive shaft of the cooler's hot grill and for regular lining maintenance. As work proceeded on cleaning clinker from the cooler, new defects were identified. As a result the kiln went back on line six days later, resulting in an output loss of about 10 thousand tons of clinker.

How can compliance with production processes even be discussed, when the mills at the Karadagskiy plant operate without protective plates and the bolt holes are plugged up with balls? As a result of two raw-material-processing mills being operated in this condition the thickness of their casings decreased from 50 to 25 millimeters. The kiln is operating without recovery units, and the shops as a result are filled with dust and dirt.

The industry-wide kiln-utilization to calendar time coefficient in 1975 was 88.6%, in 1976--87.3%, in 1977--87%, in 1978--86.4% and in the first half of 1979--86%.

For the group of lagging plants this indicator looks like this: in 1975--83.4%, 1976--81.4%, 1977--77.3%, 1978--76.8% and in the first half of 1979--75%, resulting in a reduction in the average industry-wide coefficient. In just the first half of 1979 according to data of the Scientific-Research Institute for the Cement Industry 18,150 hours was expended at these plants to eliminate breakdown involving primary production equipment.

The cement plants still experience a shortage of spare parts. However, the quality of the supporting rollers, protective plates, interchamber partitions, master gears and spur pinions, slurry pump parts, bucket crane and crane mixer wheels continues to remain low.

The complaints of cement industry workers against the Katav-Ivanovsk Foundry Plant and the Vol'skiy "Metal Worker" Plant as to the low casting quality are justified. The managers of these plants should know that about 25% of all breakdowns result from the low quality of spare parts and components supplied by them.

The shortage of plant maintenance personnel also has a negative effect on equipment operation. Despite the fact that the number of maintenance personnel at union-level plants has increased 10% in three years, including 17% at equipment maintenance trusts, if one, however, takes into account the fact that in the course of this five-year plan the Checheno-Ingushskiy, Karachayevo-Cherkesskiy, Novobryanskiy and Novospasskiy plants were put into operation, then the number of maintenance personnel at the plants has decreased in the combined work teams and machine shops. This makes more difficult equipment maintenance and routine maintenance, diverts the efforts of specialized maintenance organizations to the performance of minor maintenance and makes more complicated preparations for major overhauls and medium-level maintenance.

No less acute is the problem of building and structure maintenance. The creation of the "Soyuzspetsstremstroyremont" trust within Glavzapadtsement has resulted in a reduction in the number of workers in the plants' maintenance-construction organizations. As a result there is no one to handle minor building maintenance and the care of plant grounds. The situation with kiln lining maintenance has also become more severe.

What is needed is to boost plant maintenance services, to reinstitute maintenance-construction organizations where they have been abolished, giving responsibility for only major equipment maintenance and modernization to the specialized maintenance organizations.

Because specialized maintenance organization personnel are not at full strength, their managers must take energetic measures to increase the number of maintenance personnel and to minimize their travel from plant to plant, which results in considerable lost time.

Recently instances of poor quality maintenance work and repeated assembly maintenance due to subassembly and component failures, including

subassemblies and components just repaired, have increased in frequency. For example, during a major overhaul performed on the Belgorod Plant kiln No 6 in January-February 1979 by the "Bryansktssemremont" organization the casing was not aligned, the block bearings were not adjusted and their casings not fastened with anchor bolts. As a result 10 days after a so-called major overhaul the kiln was stopped due to casing rupture and lining deterioration.

Such examples are evidence of the loss by a number of maintenance organization managers of a sense of responsibility for the assigned job, of the undemanding standards of the cement industry workers in accepting equipment upon completion of maintenance work. Therefore, immediate organizational measures designed to improve maintenance services in the industry and insure strict observance of the Regulations Governing Warrantee Maintenance are needed. Also needed is strict monitoring to insure that permission to place in operation repaired equipment be documented by certificates endorsed by both repairing and accepting organizations for each major subassembly (supporting rollers, heat-exchangers, clinker conveyor belts, and others), and also by documents certifying the test operability of the entire assembly.

Some managers do a poor job of monitoring gravel extraction. For example, at the "Mordovtssement" production association the quarry work is being conducted at heights and slope angles exceeding the permissible maximum. Aquifer drainage is not being carried out satisfactorily, a situation which results in slides and cave-ins. Walking excavators are operated in contravention of safety regulations. Rail ties are laid on rail beds containing opoka which when wet turns into a semiliquid mass, a situation which results in track settling. Dumpcars and diesel locomotives are systematically derailed. It is therefore not surprising that the kilns here operate on slag from "passing-by" railcars.

The large-volume kilns at the Starooskol'skiy Plant were down over 2 thousand hours for lack of slag.

Placing new capacities into operation is an extremely important reserve for increasing cement output. This key task of the industry is being carried out thus far slowly and is not yielding the desired effect. The production lines with kilns 5 x 185 meters and the new kilns 6.4 x 95 meters are still being operated unsatisfactorily.

The immediate task of the collectives of Yuzhgiprotsement, Giprotsement, Orgproyekttssement and NIItsement is to render effective technical assistance to plants putting new capacity into operation. Particular attention should be paid to the Novokaragandinskiy, Navoi, Starooskol'skiy, Checheno-Ingushskiy and Karachayevo-Cherkesskiy plants.

The utilization of railcars is in need of drastic improvement. Evidence shows that 400-600 cars over the norm stand idle daily on the rail sidings of cement plants. The daily losses of material-handling resources in the

first half-year equalled an average of 130 cars. This is evidence of serious shortcomings in the work of the transport organizations of a number of plants.

A systematic reduction in relative consumption of natural fuel is occurring in the industry. Nonetheless, current work in saving fuel-energy resources must be considered insufficient. A considerable number of plants are not meeting the established standards and not carrying out the fuel economy program. Excessive fuel consumption results from violating production discipline, producing abnormally coarse grist, varying the chemical composition of the slag and exceeding standard moisture content as compared with the 1977 level. There are serious shortcomings in establishing standards and keeping records for fuel consumption at the plants.

Of particular concern is the state of the kilns' heat-exchangers. The plants need to inventory them, make a critical assessment of the design selected for the chain screen and install heat-exchangers.

Concern for people is the main task of the socio-economic policy of the Communist Party and the Soviet state. The manager who is unconcerned with improving labor conditions and satisfying the individual and cultural needs of the workers, loses their trust and cannot manage the collective.

The plan for social development must be the center of attention for all managers, party and public organizations and must be strictly adhered to. The Angarsk combine, the "Akmyantsementas" production association, Sebyakovskiy and Timlyuyskiy plants serve as examples of this.

Extensive and complex tasks confront the cement industry workers in 1980:

- to insure cement output in compliance with the approved state plan;
- to improve installment in new and utilization of existing capacities;
- to achieve substantial growth in labor productivity by increasing the rate and expanding the volume of work associated with integrated mechanization and automation and the industrial application of completed scientific research;
- to improve maintenance services and transform them into an important vehicle of progress in the cement industry;
- to insure the implementation of the plans for social development of collectives;
- to improve personnel training;
- to focus attention on problems of the economics of production and to achieve a reduction in fuel-energy and material resources.

On the basis of intensified creative coordination with industrial workers, personnel in scientific-research and design organizations must provide broad assistance to industrial plants in overcoming difficulties, eliminating their causes, and must provide quick and thorough assistance for increasing the technological level of production.

Among the industry's plants there are indisputable leaders, which perform well regularly and for which fulfilling and overfulfilling production plans and socialist commitments are the norm. Many collectives should adopt their experience. The banner of socialist competition, the tried-and-tested method of labor successes, should be raised still higher.

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